

a low-coherent light source that emits low-coherent light beams, said low-coherent light source being provided at a proximal end side of said light guide, the light beams emitted by said low-coherent light source being incident on said plurality of optical paths, respectively;

an interferometer unit, including:

a beam splitting element that splits each of the low-coherent beams emitted from a distal end of said light guide and emits one split beam of each of the low-coherent beams to an object;

a reference optical system that guides an other split beam of each of the low-coherent beams;

a reflector unit that reflects the other split beam of each of the low-coherent beams guided by said reference optical system toward said beam splitting element; and

a light detecting device that detects an interfered beam generated by interference, at said beam splitting element, between a beam reflected by the object and the other split beam reflected by said reflector unit;

a driving unit that moves said interferometer unit at least one of towards and away from the object; and

a signal processing system that generates a tomogram based on signals detected by said light detecting device.

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Please amend claim 5, as follows:

5 (Amended). The endoscope system according to claim 1, wherein said

*a 2* interferometer unit is accommodated in a distal end portion of the endoscope system.

Please amend claim 6, as follows:

6 (Amended). The endoscope system according to claim 1, wherein said driving unit includes:

a driving force supply that is provided at a proximal end side of said endoscope system and supplies a driving force; and

a force transmitting member that is connected to said driving force supply and said interferometer unit, said force transmitting member transmitting the driving force supplied by said driving force supply and moves said interferometer unit.

Please amend claim 8, as follows:

8 (Amended). The endoscope system according to claim 7, further comprising:

*a 3* a collimating lens array that is formed with a plurality of lens surfaces that collimates each beam emitted from said fiber array into a parallel light beam, each parallel light beam being directed toward said beam splitting element; and

a collective lens array including a plurality of lens surfaces that converges one parallel beam split by said beam splitting element on the object.

Please amend claim 10, as follows:

*a 4* 10 (Amended). The endoscope system according to claim 1, further comprising: